IGOR A. A. FREIRE

Belem - PA, Brazil
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Electrical Engineering PhD student with 4+ years of R&D experience in digital signal processing for communications.

EDUCATION

FEDERAL UNIVERSITY OF PARA (UFPA)
Belem, PA, Brazil

PhD in Electrical Engineering
2016 - Present

M.Sc. in Electrical Engineering
2014 - 2015 — GPA 10.0/10.0

B.Sc. in Electrical Engineering
2009-2013 — GPA 9.25/10.0

MICHIGAN TECHNOLOGICAL UNIVERSITY (MTU)
Houghton, MI, USA

Semester Abroad in Electrical Engineering
2011 — GPA. 4.0/4.0 (Dean's List)

CONTINUING EDUCATION

UNIVERSITY OF CALIFORNIA, IRVINE EXTENSION
Online

Digital Signal Processing Systems Engineering
2013 - Present

LANGUAGE SKILLS

Portuguese	Native
English	Fluent
Spanish	Intermediate
German	Basic

EXPERTISE

Digital Communications — Digital Signal Processing — OFDM — DSL — LTE — FPGA

TECHNICAL SKILLS

MATLAB - C - VHDL - R - TCL - Xilinx Vivado Suite - Eclipse - Simulink - Linux - Git - LaTeX

PROFESSIONAL EXPERIENCE

ERICSSON / UFPA COLLABORATION - Belem, PA, Brazil

2015 - Present: Wireless Communication Researcher

- Designed a state-of-the-art FPGA hardware for the transport of Long Term Evolution (LTE) signals over Ethernet-based fronthaul networks with synchronization via IEEE 1588 (VHDL, C, TCL).
- Researched algorithms for improving the synchronization accuracy obtained with the precision time protocol (PTP) and published results to the Global Communications Conference 2016.

2012 - 2014: Wireline Communication Researcher

- Developed a simulator for a G.fast Digital Subscriber Line (DSL) modem prototype (MATLAB).
- Investigated MIMO processing techniques for alien crosstalk cancellation in G.fast and published results in the International Workshop on Telecommunications 2015.
- Invented a novel interference mitigation algorithm for DMT/OFDM systems, published in the Global Communications Conference 2014.

CPQD / UFPA COLLABORATION - Belem, PA, Brazil

2015: Signal Processing Researcher

- Analyzed polyphase filtering for pulse shaping in high-speed optical communications and published an award-winning architecture at the Microwave and Optoelectronics Conference 2015.

AWARDS AND HONORS

- **2015** Second best paper in the International Microwave and Optoelectronics Conference out of 196 publications.
- **2014** Recipient of the Kawaguchi award granted annually by *Norsk Hydro* to the engineering graduate with highest GPA among the nearly 400 annual graduating students at the Federal University of Para.
- **2013** "Luiz Carlos Nogueira de Freitas" award given annually to the top Electrical Engineering graduate by GPA out of the 200 graduates of the four institutions that offer the course in the state of Para (Brazil).

LEADERSHIP EXPERIENCE

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
Volunteer at the IEEE Young Professionals Center-North Brazil Division

2015 - Present Chair **2014 - 2015** Vice Chair